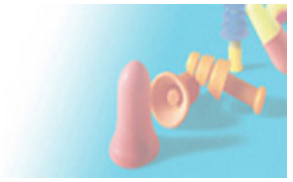
Hearing loss among construction workers

✓ More than one-half million construction workers are exposed to potentially hazardous levels of noise. You lose hearing slowly, so you may not notice. But if you can't hear, you may be in danger on the job. Construction noise regulations lack the specificity of general industry noise regulations. The main concerns with construction work are:



- *Mobility of construction workers,*
- *The temporary and seasonal nature of employment,*
- *The small size of construction companies,*
- *The prevalence of self-employment.*
- *Perceived difficulties in hearing and understanding speech communication and warning signals.*
- *In addition, masking by noise of necessary communication and warning signals is of particular concern in construction, where recent research demonstrated the association between fatalities and the failure to hear reverse alarms.*

✓ The following elements of a successful hearing conservation program can serve as a model for the construction industry:

- *Positive safety culture through training and education*
- *Baseline annual audiograms*
- *High percentage use of hearing protection device (HPDs) such as ear plugs or ear muffs*
- *A centralized record-keeping procedure, which helps solve the problem of worker mobility*
- *Controlling construction noise at the source is the most reliable way to protect worker hearing.*

✓ The highest percentages of overexposed workers occur in highway and street construction, carpentry, and concrete work.

✓ Chemical and Combined Exposures

- *Solvents, such as toluene and xylene, appear to exacerbate the hazard to hearing, particularly when combined with noise,. In a report on construction laborers, toluene and xylene are high on the list of hazardous chemicals and physical agents in terms of estimated number of exposed workers.*

✓ Practical Considerations

- *The need for construction workers to communicate with each other is as great or greater than in most manufacturing industries. This is particularly true of personnel operating heavy and mobile equipment, such as loaders, dozers, and cranes, as well as personnel on the ground or in structures who need to communicate with them. Unless these workers are fitted with effective two-way or multiway communication systems, HPDs are likely to be viewed as a hindrance to communication and the perception of warning signals. This is especially true of workers who have already incurred a noise-induced hearing loss.*

- *Posting of noise hazard areas when average exposure levels exceed 85 dBA or peak sound levels exceed 135 dBA. Employers must supply HPDs and workers must wear them in areas that have been posted.*
- *Noise doesn't just hurt your hearing. You can also get tinnitis, a ringing sound in your ears. Too much noise can make you tired and nervous. It can raise your blood pressure and add stress that can help lead to heart disease.*

✓ Exposure Levels

- *Noise levels are measured in decibels (dBA). We talk at about 70 decibels. Decibels are measured on a scale like the one for earthquakes. So when the decib*

els go up a little, the noise goes up a lot. 73 decibels is 2 times as loud as 70. OSHA has rules about how long you may be exposed to a noise level, before you must wear hearing protection:

- *Allowed to be unprotected At this noise level*
  - *Up to 8 hours 90 decibels*
  - *Up to 4 hours 95 decibels*
  - *Up to 1 hour 105 decibels*
- *When the noise is 95 decibels, OSHA says you may work with no hearing protection for only 4 hours. Even so, this noise level is not safe; 1 in 5 people exposed regularly to 90 decibels (as OSHA allows) will lose some hearing. Short, very loud (impact) noises can do the most harm.*
- *If you have to raise your voice for someone 3 feet away to hear you, the site may be too noisy and you need hearing protection.*

✓ Most construction noise comes from equipment. These decibel levels have been measured:

(As a reference, the pain threshold for nose is 120 dBA)

Equipment	Decibels (dBA)
Pneumatic chip hammer	103-113
Earth Tamper	90-96
Jackhammer	102-111
Crane	90-96
Concrete joint cutter	99-102
Hammer	87-95
Portable saw	88-102
Earthmover	87-94
Stud welder	101
Front-end loader	86-94
Bulldozer	93-96
Backhoe	84-93

✓ Protect yourself by making the workplace quieter.

- *Ask contractors to buy quieter models when they buy new equipment.*
- *Good maintenance, new mufflers, and other changes can make a difference too.*
- *Put sources of loud noise, like compressors and generators, as far away from the work zone as possible.*
- *Also, plywood or plastic sheeting set up around machinery can shield noise.*

✓ Cut the time you spend around loud noises.

- *Ask to have workers rotated from noisy jobs to quieter jobs, if possible.*
- *Take rest breaks away from noisy spots.*

✓ Wear protective equipment.

- *OSHA says, if changes the contractor makes do not get noise levels low enough (below 90 dBA), you must wear hearing protection. And you should be trained to use it.*
- *Use hearing protection that is easy to put on and take off. Some hardhats have earmuffs for*

hearing protection that can be lifted out of the way when you don't need them. Some ear plugs have neckbands so you don't lose them if you take them off.

✓ Have your hearing checked each year.

- ***Ask for at least a standard pure-tone test. Tell them your work is noisy, so they will know you may have lost some hearing.***

✓ Measure the noise on site. Your local union can buy a low-cost sound meter.

✓ You Should Know

- ***Noise-induced hearing loss can be a serious disability. Once noise exposure damages the sensory-neural mechanism of the inner ear, the hearing loss is permanent (permanent threshold shift).***
- ***The likelihood of permanent hearing loss increases with prolonged exposure. Noise-induced hearing loss can cause difficulty in hearing and understanding critical verbal instruction and warning sounds at work. It can also cause problems in hearing and perceiving spoken communication, thus interfering with normal social interaction outside the workplace.***
- ***Many workers don't want to use hearing protection. They are afraid they won't hear warning signals, like backup alarms. But some new protectors can let in voices and block other noises.***

You may not need the hearing protection designed for the loudest noises – just something comfortable that lets you hear talking and takes away some of the noise around you.